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The Formation of a Comfortable Urban Environment

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Abstract. The concept of "smart city" and the need to follow this direction in the light of current trends, so as not to miss the chance to improve life in cities. The development and improvement of cities allows humanity to reach a new level in the quality of life and intellectual development. Hence, the population has more prospects to change the surrounding life and their personal. The article reflects the main ideas in the formation of a comfortable urban environment, their relationship and impact on a favorable social climate. The scenario algorithm of practical action for the active citizen on determination of the direction of improvement of comfort of the city environment, establishment of communications of objects of infrastructure of the city environment, Association of the used methods of changes in the concept is offered. The results of the project "Formation of a comfortable urban environment" on the example of the Sverdlovsk region. The stages of organizational procedures are analyzed, the data of analysts are analyzed, conclusions are drawn about the need to involve citizens in the implementation of projects initiated by citizens.

1. Introduction

Cities are created for people, their inhabitants and guests.

The term "urban environment" can be considered as a combination of physical and spiritual space, which includes the city itself. This space has natural and socio-economic features. It has an internal structure, dynamics, evolution [1].

A comfortable urban environment is a space that is maximally adapted to the needs of citizens. The comfort of the city for its residents by several factors:

- transport accessibility,
- availability of necessary services,
- availability of facilities for all categories of the population,
- availability of organized public spaces,
- convenient layout of the street network.

Indicators of satisfaction with the place of residence, quality of life, health and safety of residents are also associated with a comfortable urban environment.

1.1. Problem description



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Currently, the formation of a comfortable urban environment is one of the most important problems.

Today, the traditional forms of management of urban and municipal services have almost exhausted themselves. They do not meet modern requirements for logistics, safety and environment. As the percentage of the urban population is constantly increasing, the burden on infrastructure and utilities will continue to increase in the future.

The formation of the concept of "smart city" ("smart city") is an attempt to solve a complex of problems of urban management.

Today there are several definitions of a smart city. However, all formulations say that a smart city is driven by data that allows urban services to improve the quality of life of the population [2].

The data cover such spheres of life of citizens as safety, transport, medical services, municipal services, improvement, etc. data Sources are video cameras, various sensors, information systems, etc.

A "smart" city can be defined as a "city of knowledge", a "digital city", a "cyber city" or an "eco-city" – depending on the purpose of urban planning. "Smart" cities in economic and social aspects are looking to the future [3].

They continuously monitor critical infrastructure for optimal resource allocation and security. They are constantly increasing the number of services provided to the population, providing a sustainable environment that contributes to the well-being and health of citizens. The basis of these services is the infrastructure of information and communication technologies (ICT) [4].

1.2. Relevance practical relevance

The formation of a comfortable urban environment is one of the priority projects in the field of housing and communal services.

The use of foreign experience of cities-colleagues and support and promotion of ideas of their own minds – one of the keys to success in the direction of improvements in the formation of a comfortable urban environment. But before moving on the path of creating a comfortable environment, you need to understand the problem areas and their relationship with all spheres of life.

Many cities in Russia pay great attention to the formation of a comfortable city, for example, such large cities as Moscow, St. Petersburg, Kazan, Krasnodar, Novosibirsk, Yekaterinburg, etc. in Addition to the fact that the largest cities of the country, they are also leaders in the integration of new ideas and technologies in the living conditions of residents.

Social and techno-economic research is required to identify problems. Social studies can be based on surveys, public hearings, etc. Technical and economic studies are based on well-defined indicators and their values showing growth or decline. The data obtained require Desk expert processing to obtain the results. The creation of an expert group can help in this task. It should be a matrix model of management. According to the results, it is necessary to develop a concept of future improvement in the life of the city [5].

1.3. Purpose of research

The purpose of the study is to show that the main driving force in the formation of a comfortable urban environment is the active participation of citizens in the life of the city and its management using intelligent information systems.

The target audience is the residents of the city who are interested in the situation with the territories of the city. Citizens who want to live in a comfortable and safe space. They want to use "smart city" technologies in practice and sustainable development of their territories. Also, representatives of business and city administration, which can be just interested parties, as well as potential customers and investors of projects for the formation and improvement of a comfortable urban environment.

2. Literature review

Mora L., Deakin M., and Reid A. starts filling such a gap by reporting on the findings of a multiple case study analysis, which is conducted into European best practices. In meeting this aim, four European cities considered to be leaders in the field of smart city. The results of this

analysis offer a series of critical insights into what strategic principles drive smart city development in Europe and generate scientific knowledge, which helps to overcome the dichotomous nature of smart city research [6].

This study uncovers five main development paths: the Experimental Path; the Ubiquitous Path; the Corporate Path; the European Path; and the Holistic Path. Overall, this analysis offers a comprehensive and systematic view of how a smart city can be understood theoretically and as a scientific object of knowledge able to inform policy-making processes [7].

The article Jonathan Desdemoustier studies how Belgian municipalities understand the concept of Smart Cities in 2016. Based on the groundwork of literature on Smart Cities and the results of a survey of 113 Belgian municipalities, a typology of four understandings of the Smart City (technological, societal, comprehensive and non-existent) is elaborated [8].

A systematic review of the literature on the topic "Can cities become smart without being sustainable?" is presented in the work [9].

The present work aims to determine the existence of commonalities between two modern conceptions of cities, i.e., smart and sustainable. The main contribution of this paper is in considering the smart city as mainly setting the guidelines of a transforming city, while the sustainable city is mostly thought as an approach and a philosophy to modern cities [10].

A systematic review of the literature on the topic "The governance of smart cities" is presented in the work [11].

Albert Meijer and Manuel Pedro Rodríguez Bolívar stand for a comprehensive perspective: smart city governance is about crafting new forms of human collaboration through the use of ICTs to obtain better outcomes and more open governance processes. Research into smart city governance could benefit from previous studies into success failure factors for e-government and build upon sophisticated theories of socio-technical change [12].

This paper presents an empirical study carried out to assess and analyze the development pattern of 35 smart cities in China using the principal component analysis (PCA) and back propagation (BP) neural network techniques [13].

This study interrogates the smart city as a global discourse network by examining a collection of key texts associated with cities worldwide [14].

The author's article by De Falco Stefano describes the development of smart city strategies in major European cities. Despite its early stage of development, this procedure provides new knowledge, innovative research perspectives, and a conceptual framework for supporting future comparative research and theory-building [15].

Cities worldwide are attempting to transform themselves into smart cities. In the article of Chiehyeon Lim, Kwang-Jae Kim and Paul P. Maglio findings from an analysis of various use cases of big data in cities worldwide and the authors' four projects with government organizations toward developing smart cities. This paper will contribute to urban planning and policy development in the modern data-rich economy [16].

The Internet of Things (IoT) and related big data applications can play a key role in catalyzing and improving the process of environmentally sustainable development. Therefore, the aim of this paper is to review and synthesize the relevant literature with the objective of identifying and discussing the state-of-the-art sensor-based big data applications enabled by the IoT for environmental sustainability and related data processing platforms and computing models in the context of smart sustainable cities of the future. The goal of this study suits a mix of two research approaches: topical literature review and thematic analysis [17].

Silva Bhagya Nathal provides an overview of the architecture components of trends and open problems in smart cities. Consequently, smart city research has focused on identifying core components and building comprehensive frameworks to understand and manage such initiatives. The author shows how involved stakeholders' stake contribute to (or impede) smartness in the planning and outcomes of the process. In smart city literature participation (involvement) of different stakeholders (such as citizens, agencies, and industry) is pointed out as important [18].

3. Research methodology

3.1. *Smart cities are the future*

Different cities have different priorities and objectives, but all "smart cities" have three things in common [19]:

1. Availability of information and communication technology infrastructure.
2. A well-built and integrated management system should be created in the city.
3. In a "smart" city there should be "smart" users.

The UN estimates that 67% of the world's population will live in cities by 2050. Some megacities of the world are already overpopulated [20].

In order to provide the population with high-quality urban services, administrations are increasingly introducing various information systems.

To summarize the information and a brief description of the smart city, we can distinguish the so-called properties of the smart city, namely: 1) Quality of life, 2) Mobility, 3) Urbanization, 4) Smart technologies, 5) Socialization, 6) Virtualization, 7) Personification, 8) infrastructure Modernization.

Sociologists and economists agree that happy people live in smart cities. The level of confidence of residents in their government, the ability to influence the decision - making process, a sense of security and safety, a low level of offenses and a high degree of responsibility of all participants in the urban environment – these are just a few that distinguishes the daily "smart city" [21].

Modern opportunities allow users to build their own "smart" city in almost any locality – through mobile applications in smartphones, launching their own startups aimed at improving the quality of life and the introduction of digital services within their community.

Conducting various studies and making ratings of the authorities and business of the largest cities should learn from each other, change competencies, share experiences. And then how to apply this knowledge is up to the residents of megacities.

Active participation of citizens in the life of the city and its management with the use of intelligent information systems is the main driving force for the formation of a comfortable urban environment. Now, when designing intelligent systems (IS), we (citizens) are often the end users, which imposes additional requirements to the functional components and user interface [22].

3.2. *Modern Internet of things for smart cities*

The Internet of Things is a new paradigm of interaction. The main purpose of the Internet of Things is that the objects of everyday life will be equipped with microcontrollers, transceivers for digital communication and appropriate Protocol stacks that will allow them to communicate with each other and customers to solve daily problems. Also, the Internet of Things can interact with a wide range of devices, such as surveillance cameras, control sensors, home appliances, etc. The Internet of Things is used in many areas of life, such as industrial automation, helping the elderly, vehicles, intelligent energy management, traffic management on the road and much more.

The new paradigm is most advantageous when used in the urban environment, as this strategy responds to the challenges of time in the management and automation of public Affairs.

At the moment, the most acute problem is the heterogeneous devices and technologies that are used at the moment. This issue can be solved by the Internet of Things, which can become a single control unit within the urban scale [23].

The situation is aggravated by the economic component. A possible way out of this situation is the design of such services, which combine social utility with economic advantage for the city administration in terms of reducing operating costs [24].

Examples of such services include the following services:

1. Waste management.
2. Air quality control.
3. Noise monitoring.
4. Urban energy consumption.

5. Smart lighting.

The practice of implementing the Internet of Things in the life of the city will create unique services that will allow the city authorities to reduce costs, optimize and automate typical processes of the city.

Smart City services are based on a centralized architecture consisting of heterogeneous devices located in different parts of the city. These devices transmit data to the control center, where data is processed, stored, and managed. A key characteristic of the urban Internet of Things is the ability to work with different technologies, combining them into one vast network.

There are three main parts that make up the urban Internet of Things – a web approach, channel-level technology and devices [26].

The architecture described earlier has found its application in the introduction of the Internet of Things in the city of Padua. This was made possible by the cooperation of municipal authorities and private companies. The main services provided by the smart city of Padua are environmental data collection and street lighting management [27].

These sensors collect environmental data such as carbon dioxide, noise, air humidity, vibration, temperature and the like.

For example, using a mobile application, operators of municipal services can quickly identify a faulty lamp that requires an immediate call to the repair team. These services include a sound map of the city, a map of the city's pollution, a map of the city's energy consumption, readings of temperature sensors throughout the city over the past seven days, etc. This will allow you to see the whole situation, analyzing certain changes in the city after rains, drought, etc. [28].

The technologies discussed are currently close to standardization. The main problem is that the business is interested in the development of the urban Internet of Things and bring investment in these projects. Then you can make people's lives better.

3.3. Project "Smart digital city"

The project "Smart digital city" is an example of a product that provides innovative development of the region and districts of the city, through the introduction of which in all spheres of life of the population of information and telecommunication technologies, it is possible to accelerate the development of the region and improve the quality of life of the population.

The aim of the project is to optimize the conditions for improving the quality of life of people and reduce the use of resources in the region.

The practical significance of the project "Smart digital city" is the development of key areas to create new conditions for the development of the information society.

The conditions of the project lead to the creation of a platform for investing in the digital economy and optimizing the level of electronic services up to 75%, and the level of electronic infrastructure – up to 80%.

The implementation of the project is based on the socio-cultural and territorial characteristics of the region and the zone of economic interests of its residents and production companies [29].

The main objectives of the project "Digitalization of urban infrastructure" are:

- optimization of conditions for improving the quality of life in the region;
- improving the competitiveness of the region;
- improvement of the system of state and municipal management of the region.

Analyzing the main directions presented in the project, it should be clarified that such differentiation of directions is important for the assessment and monitoring of detailed changes in the structure of the city, for the construction of a single information platform, where the spheres of activity will be presented in one interface, which will facilitate the life of the population and simplify the activities of all organizations [30].

The first area is smart healthcare.

The second area is education with digital communications.

The third direction of the project "Digitalization of urban infrastructure" is smart transport.

Fourth, public security.

The fifth area is digital energy.

Next is the direction, which includes the digital government.

We will present the popular activities in this area:

- popularization of electronic format in the sphere of state and municipal services;
- creation of public-private partnership in the development of digital government;
- transition to the use of a single national population register;
- introduction and expansion of the field for electronic document management for legally significant exchange of electronic documents at the Federal, regional and municipal levels (90 % of the total document management).

Thus, the implementation of the project "Digitalization of urban infrastructure" is a profitable project for the region, aimed at creating favorable conditions for the lives of residents and investment activities. Thanks to this project, it is possible to reduce the level of offenses, improve the transport and environmental situation in the region. It is undoubtedly a potential factor in the socio-economic development of cities.

4. Results and suggestions

4.1. The world's best city experience in the application of innovation

Today, more and more people on the planet pay attention to the environment, pollution of the atmosphere. Cities want to live in a new technological way. Therefore, they strive to get ahead of time, making innovations in their development. So that the residents could adjust to another level of development and feel safe and comfortable [31].

Table 1 shows the cities that innovate in the struggle for safe and comfortable living.

Table 1. Innovation of cities in the struggle for safe and comfortable living.

City	Best practice	Practical example	The Result (Effect)
Oslo (Sweden)	From car Parking to make bike lanes	Increase the number of Bicycle paths, put benches, break mini-parks	More than 700 Parking lots in the city center were eliminated. Installed charging stations for electric vehicles. Made more Parking for disabled drivers. People can't drive into the centre by private car
Buenos Aires (Argentina)	City hall sets flowers on the roads for the safety of pedestrians and cyclists	Boulevard of 20 lanes, today is occupied only by buses. About 100 blocks of the city are exempt from cars. Bright markings are applied to the busy intersections of the city. Vases with flowers are placed along the roads	The time on the way to work of the city residents has decreased dramatically. Free space has become a pedestrian area. The roads have become as safe as possible for pedestrians and cyclists. The authorities are introducing the method of tactical urbanism. It involves inexpensive repairs in a built environment. Repair, designed to improve areas and places of congestion
London (UK)	Reduces the roadway in favor of pedestrians	The government introduced a fee for entering the city centre during peak hours.	A special plan has been created: half of the streets will be freed from cars in favor of pedestrians. The speed of transport will be no more

City	Best practice	Practical example	The Result (Effect)
		Opened the first Bicycle superhighways on busy routes. Transition to zero-emission vehicles	than 15 miles per hour. It is planned to build protected bike paths on most of the main streets. Reducing the number of cars in the city center. Care for the environment and pedestrians
Seoul (South Korea)	Plans to completely get rid of "harmful" cars until 2020	Transformed the highway into a pedestrian road. It is planned to launch 3 thousand electric buses	People choose public transport instead of their own cars. Reduction of harmful emissions in the city center, the transition of citizens to public transport
Madrid (Spain)	Release the Central district from transport	The introduction of restrictions on travel to the Central part of the city transport. Project "low emission zones"	A rapid drop in traffic of 32%. Air purification in the center of the capital
Beijing (China)	"Harmful" cars are limited to travel time and license plates (can drive on certain days of the week)	The administration offers small financial incentives to people who do not travel on their designated day. In new areas only electric cars are allowed	People are transplanted to public transport. Creation of new "clean" areas. Reduction of harmful emissions in the city center. Transition to environmentally friendly cars. Incentive to switch to public transport
Paris (France)	The track near the Seine turned into a footpath and a car park	Restriction on the entry of old cars polluting the environment on weekdays. It is planned to ban diesel and gas cars	Work on reducing pollution by reducing road traffic and eliminating polluting transport. Transition to environmentally friendly cars. Incentive to switch to public transport
India	Full transition to electric vehicles by 2024	Turning a busy street into a pedestrian square. By 2030, all cars must be electric	Rejection of polluting transport. Reduction of harmful emissions in the city center
Copenhagen (Denmark)	Creating a superhighway for cyclists	More than 200 miles of Bicycle paths have already been made. It is planned to make the city completely carbon neutral by 2025	The creation of additional lanes, and superhighway for cyclists to a lower level of car ownership. Orientation of the population to a healthy lifestyle
Berlin (Germany)	The construction of separate villagestyle that are not part of the roads for vehicles	Converted 12 highways in villagestyle	Creating conditions for safer travel. Increasing the number of bicycles on the roads
Georgia	Complete rejection of the production and use of polyethylene	Ban on the production, use and import of plastic bags	The proposal to use biodegradable bags. Environmental protection. Reducing the amount of hazardous waste in the country

4.2. Formation of a comfortable urban environment in the Sverdlovsk region and Yekaterinburg

The project formation of a comfortable urban environment is one of the tasks, the solution of which is an indispensable condition for reaching a new quality of life.

As part of the priority project "Formation of a comfortable urban environment" two areas, the first – the formation of a modern urban environment, the second – the improvement of public places – parks and gardens.

The government of the Russian Federation has been instructed to provide at least 20 billion rubles in the Federal budget for these purposes [32].

Implementation of the project "Formation of a comfortable urban environment" began in 2017. As a result of the project, Sverdlovsk region took the 4th place in the rating of the regions of the Russian Federation and became one of the leading regions in the presence of improvement practices ("5-TOP").

Moreover, one of the projects implemented in the region on complex improvement of yard areas was recommended by the Ministry of construction of Russia for inclusion in the Federal register of best practices (projects) on improvement.

In 2018, in the Sverdlovsk region, the project was carried out improvement of 140 territories – 102 yards and 38 public areas. Taking into account all sources of financing, more than 1.5 billion rubles were spent on their reconstruction.

The results of the project in the region – Sverdlovsk region today is very impressive – a comprehensive improvement of more than 200 yards and more than 70 territories held more than 600 events attended by several thousand residents of the Sverdlovsk region.

The project of complex improvement of the embankment in the city district of Verkhnyaya Tura is recognized at the Federal level as the best from the Sverdlovsk region. The next competition is declared the six completed projects – leisure centre "Color" in Bogdanovich, the embankment of the river Turia in the city, the walk of Fame in Severouralsk, and courtyard areas of Pervouralsk, Krasnouralsk, and Yekaterinburg.

It is planned to allocate 1,733 billion rubles from the Federal budget in 2019 to support the improvement projects of the Sverdlovsk region [33].

The Ministry of energy and housing and communal services of the Sverdlovsk region annually conducts organizational activities aimed at the implementation of the project. At the beginning of the calendar year, meetings of commissions are held to summarize the results of the first and second stages of the selection of applications of municipalities for the right to receive subsidies. Also, at the beginning of the year, an agreement on the provision of subsidies from the Federal budget to the budget of the Sverdlovsk region is signed.

Public areas to be improved as a matter of priority were selected taking into account the opinion of citizens in the framework of the rating vote held on March 18, 2018.

Large-scale work was carried out, as a result of which about 530 thousand proposals were received from residents of the Sverdlovsk region. The total number of citizens who took part in the rating vote was more than 890 thousand people. The winners were 58 public territories. The government approved the distribution of subsidies to support municipal programs for the formation of a modern urban environment.

In order to monitor the implementation of the priority project "Formation of a comfortable urban environment", the Ministry of construction of Russia has created an appropriate module in the state information system of housing and communal services. Work in this module is mandatory for all municipalities. The content of the system is systematic.

The only control point required for filling – is a complete inventory of the yard and public areas of municipalities.

In accordance with the requirements of Federal legislation, an interdepartmental Commission of the Sverdlovsk region has been established. The purpose of this Commission is to monitor the implementation of the priority project. Monthly commissions are considered intermediate results of

project implementation in the region in terms of municipal formations according to the results of work of the Commission to municipalities, are given appropriate legal instructions to specify the terms [34].

Local authorities were instructed to create on their official websites a section "Formation of a comfortable urban environment", where residents would have the opportunity to receive detailed information about the program, answers to their questions and leave their proposals on the objects of improvement. A positive trend is the factor of increasing the involvement of the population in the implementation of the project. In order to increase the information content of the population of the Sverdlovsk region published more than 500 materials in the media. There are such events as the Grand opening of landscaped areas, the festival "Go out for a walk", the action "international day of neighbors".

Thus, the main principle of the project "Formation of a comfortable urban environment" is public participation, dialogue, organized with residents and local communities.

The city of Yekaterinburg has great potential in the implementation of the project of formation of a comfortable urban environment. The city has a huge number of areas that need improvement: from the reconstruction of courtyards to the creation of significant public spaces. The infrastructure of the city needs improvements, because they will affect the social and economic climate of the city. For example, in a city with a population of more than 1.46 million people, the level of motorization accounts for more than 40% of the total population and every year it increases. Congestion of streets becomes higher, free space for pedestrians in the yard and house adjoining zones becomes less. This affects the quality of life of residents. For example, unloading of the streets from the transit of cars, the creation of neighborhoods are maximally adapted to the needs of residents, pedestrians and cyclists, as did the municipality of Barcelona, may favorably affect the statistics of the health of the residents, sustainability of the environment [35].

4.3. Ways of manifestation of an active life position of the citizen

We present different types of participation in the life of the city from the standpoint of social responsibility of a concerned member of society.

Table 2 presents the types of manifestations of the active life position of the citizen, taking into account the regulatory legal aspects [36].

Table 2. Different types of participation in the project "I am a resident».

Actions	Algorithm of actions
1. I can include my yard in the state program	1.1. To hold a General meeting of homeowners on inclusion in the state program: 1.1.1 Select list of preferred contractors 1.1.2 to Determine the form of participation of the owners 1.1.3 to Decide whether we include the improved objects in the General property, whether we are ready to contain it further 1.1.4 Select our official representative 1.2. Apply to the municipality 1.3. Take a direct part in the works and their control
2. I can become a member of the public Commission	2.1. Submit an application to the municipality 2.2. Get an answer
3. View the work plan on the website	3.1. See the site plan and list of works 3.2. Check their real performance and quality 3.3. Report to the municipality, region or Ministry of construction of Russia on the result of the audit 3.4. Get reply to your email
4. I can participate in the selection of the object for	4.1. View the work plan on the website 4.2. Vote for the work you like best

Actions	Algorithm of actions
improvement	
5. I can apply for the inclusion of the object in the program	5.1. View the work plan on the website 5.2. To offer the property in the improvement program 5.3. Get an answer
6. Become an activist and support the development of your city	6.1. Take care of the municipality 6.2. Download information materials from the site and study them

We will determine the sequence of methods of development and stages of implementation of actual projects of active citizens taking into account the existing problems. For ease of visualization, we present the material in Table 3.

Table 3. Algorithm of development and stages of project implementation for active citizens.

Used method	The stages of the project	Urgent problem
1. Identifying problems in the formation of a comfortable urban environment; 2. Setting project goals and objectives; 3. Analysis of the present state of the territory; 4. Analysis of public opinion on improvement; 5. Definition of the main ways of improvement; 6. Development of the layout in the program of landscape design; 7. Analysis of resource provision of the project; 8. Search for potential investors; 9. Evaluation of the results of project activities	1. Identifying problems in the formation of a comfortable urban environment; 2. Setting project goals and objectives; 3. Analysis of the present state of the territory; 4. Analysis of public opinion on improvement; 5. Definition of the main ways of improvement; 6. Development of the layout in the program of landscape design; 7. Analysis of resource provision of the project; 8. Search for potential investors; 9. Evaluation of the results of project activities	1. A large amount of garbage in the Park area; 2. The lack of illumination of the city; 3. The lack of a sufficient number of ballot boxes and benches; 4. Painted graffiti objects; 5. No control of walking Pets; 6. The lack of a dedicated and refined spaces; 7. The total neglect of the site (overgrown path, destroyed the main stage, dirty area around the pond, the poor state of the reservoir) 8. The lack of gentrified places

It is also recommended to conduct surveys of citizens on the Internet regarding any territory in the city. Based on the responses of respondents may be formed from the list of facilities that require urgent improvement.

The city can be zoned on the plots, blocks, in which it is possible to introduce gradually developed concepts. The reconstruction of the courtyards plan in the period overlapping with the works on reconstruction and capital repair of engineering networks, structures and buildings. With the help of the concept to link the architectural structures of the present and the past, adding tactical urbanism, architectural and landscape ideas and modern technologies – we get a creative, comfortable urban environment.

5. Discussion of the results

Any project (the relevance of which is proved), initiated by active citizens, can have a huge number of positive effects. The expected results of the project can be seen in Table 4.

Table 4. Expected results from the project initiated by active citizens.

Expected result from project implementation	Description
1. Social	<ul style="list-style-type: none"> • creating an attractive urban environment • promoting a more active civil society • creation of popular public spaces in the city • improving comfort and quality of life • providing opportunities for more profitable purchase of residential real estate to the population
2. Economic	<ul style="list-style-type: none"> • increase of investment attractiveness of the city • increase in tax revenues from previously unused territories • identification of problems hindering the development of the city • creation of new jobs • solving the problem of lack of territories • business incentives

The results of the implementation will contribute to the establishment of contact between representatives of the administration, business and residents of the city for effective cooperation in the formation of a comfortable urban environment. This, in turn, will have a huge positive effect on the spatial development of the city, improving the quality of life of citizens and investment attractiveness.

6. Results and suggestions

Today there are several definitions of a smart city. However, all the formulations coincide in the fact that a smart city is managed by data that allows urban services to improve the quality of life of the population.

The formation of a comfortable urban environment in the city is happening today and now. Every resident of the city should take part in it.

Comfortable urban environment can be associated with the success of the city as a whole, as well as many modern cities, defined by three main elements:

- know where your city is going, understand its purpose and its development potential;
- to encourage the development of leadership;
- encourage risky decision-making within a system based on the principles of accountability and transparency.

All of the above gives people the opportunity to creatively participate in the formation of a comfortable urban environment of the city.

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